COURSE INFORMATION FORM

DISCIPLINE  CIMM
COURSE TITLE  Advanced Machining
CR.HR   3  LECT HR.   2  LAB HR.   2  CLIN/INTERN HR.   _______  CLOCK HR.   _____

CATALOG DESCRIPTION
This course will provide advanced machining concepts in lathe and mill operations. It will also give an overview of Metallurgy and Geometric Dimensioning and Tolerancing.

PREREQUISITES
CIMM 150 & 151 or CIMM 160 & 161

EXPECTED STUDENT OUTCOMES IN THE COURSE (ESO)
Upon completion of this course, the student will be able to:
1. The student will perform advanced machining operations in the lab safely.
2. Understand the basics of metal structures.
3. Understand the different heat-treatment processes.
4. Demonstrate metal-hardness testing.
5. Understand the basic principles of Geometric Dimensioning and Tolerancing (GD&T).
6. Demonstrate the use of GD&T symbols.
GENERAL EDUCATION OUTCOMES (ESO)
Specify which general education outcomes, if any, are substantially addressed by the course. Numbers in parentheses identify the Expected Student Outcomes linked to the specific General Education Outcome.

<table>
<thead>
<tr>
<th>Outcomes</th>
<th>ESO</th>
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PROGRAM-LEVEL OUTCOMES

CAREER AND TECHNICAL EDUCATION PROGRAM OUTCOMES
Specify which Career and Technical program outcomes, if any, are substantially addressed by the course by completing the “Career and Technical Education template” to show the relationship between course and program outcomes to assessment measures.

1. Students will demonstrate the ability to apply foundational skills in an industrial setting, safely and to industry guidelines.
2. Students will think critically and apply problem-solving skills.
3. The program will graduate individuals who exhibit competence in CNC programming, setup and operation.

CLASS-LEVEL ASSESSMENT MEASURES
Student accomplishment of expected student outcomes may be assessed using the following measures. (Identify which measures are used to assess which outcomes.)

1. Assignments/Labs: (1 – 6)
2. Written and Application Exam: (1 – 6)
COURSE OUTLINE FORM

CATALOG NO.  CIMM 200

DISCIPLINE  CIMM

COURSE TITLE:  Advanced Machining

Individual instructors may order this outline as fits the needs of their individual courses. In addition, they may place more emphasis on some areas than on others. What is assured is that this particular list is covered in the course. Other topics may be added to a course as the instructor sees fit, and as time and interest allow. An *asterisk can be used to mark an item as optional.

I.  Advanced concepts in CNC machining.

II.  Metallurgy
    A.  Structures of metals
    B.  Heat treatment of metals
    C.  Properties of metals

III.  Hardness testing of metals and related equipment

IV.  GD&T principles

V.  GD&T symbols